



Man and Technology

Structural Organization of a formal debate

★ A debate is a controlled discussion of both sides of an argument or problem. The motion - the subject of the debate - is something to move you to speak. It must be two-sided - something you can argue for or against.

President

(who is addressed as Mr President, Sir)

Proposers

(Speakers for the motion)

Opposers

(Speakers against the motion)

✎ Both the **proposers** and **opposers** are called paper speakers because they have a piece of paper with their notes.

✎ The President controls the whole debate. Interruptions are allowed as follows:

↳ on a point of information - when, for example, a speaker has presented some wrong facts,

↳ on a point of order - a speaker has been rude or impolite.

➤ One is supposed to refer to the speakers on the other side as the honourable 1st / 2nd ... speaker against the motion.

✎ At this stage, the audience is only allowed to interfere to say 'hear!, hear!', if someone feels that what the speaker is saying conforms to his/her opinion and to say 'shame!', if he/she dislikes what is being said.

⊗ After the main speakers have finished expressing their arguments, the President declares the debate 'open to the floor' - and then the house (or audience) has its chance of expressing its opinions.

⊗ Then there is the final summing up by one proposer and one opposer.

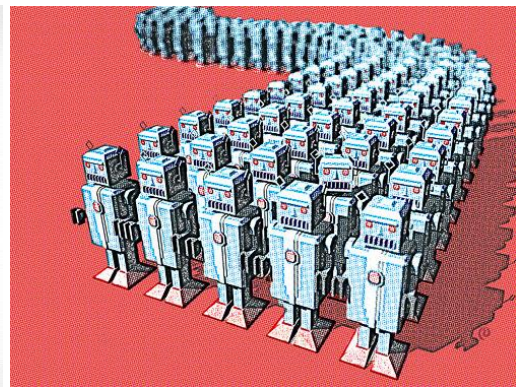
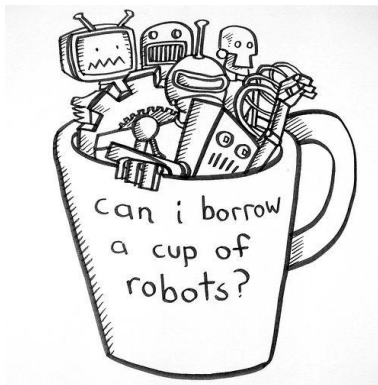
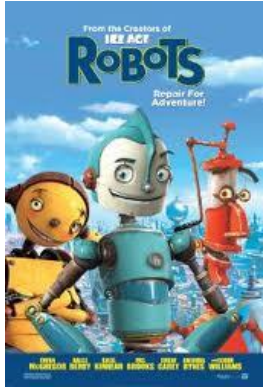
⊗ Then the audience has to vote according to how well it thinks the respective sides have stated their case. The President says 'We shall now proceed to vote'.

⊗ Vote 'Aye' if you consider the proposers' side better, and 'No' if you thought the opposition was more convincing. You may also abstain and your abstention will be recorded.

⊗ At the end of the debate, the President will declare the motion carried or defeated by, say, 28 votes to 10 with 5 abstentions. The President has the casting vote in the case of a tie.

NOW IT'S YOUR TURN TO HAVE A DEBATE ON THE MOTION:

ROBOTS WILL BE THE SLAVES OF THE 21st CENTURY AND WILL REPLACE HUMANS



Activity 1 - FORMAL DEBATE PREPARATION (Group organization, Choice of roles)

1. You are going to take part in a formal debate. Its aim is to share different opinions on the roles that ROBOTS are playing in our society nowadays and to stress whether we should welcome them or take some action in order to control them.
2. One of you is going to be the **Host**. There are going to be **6 proposers** and **6 opposers** who are going to state their case.

Activity 2 - DEBATE PREPARATION (Preparing Roles)

1. Do some research and prepare your roles at home. Make sure you e-mail your teacher and the host your character profile.
2. The audience has to prepare questions to ask the panel.

Activity 3 - FORMAL DEBATE (Two weeks later)

Roleplay the debate in class.

Activity 4 - EVALUATION

- You fill in your Self-Assessment Form for Oral Performance.
- Observers fill in the Observer Evaluation Form and share their opinions with the teacher.
- The audience has to evaluate their peers orally.

MAKE SURE:

You act and don't read;

You use appropriate materials and props to convey your message;

Each person is given the same speaking opportunity (no less than 5 minutes);

You are really innovative and creative;

You interact with your mates and your audience;

You have fun and enjoy yourself!



Surprise me and yourself!



✠ The following expressions may help you interact in a formal debate.

Speaking in favour of a motion

I'd like to support the motion to ...
The motion to ... has my full backing (support).
I wholeheartedly agree with ...
I thoroughly approve of ...
I'm completely behind the motion to ...

Speaking against a motion

I can see many problems / dangers in ...
I am sure it's not possible / feasible to ...
I am wholly opposed to the motion to ...
I see no valid reasons for supporting the motion to ...

Returning to the topic

Going back to what I was saying before ...
As I was saying ...
Well, anyway ...

Reacting to what the speaker says

I see / know what you mean ...
Right / Okay / Exactly / Sure.
Is that right?
It can't be!
I don't / can't believe you / it.

Checking understanding

Is that clear?
Do you follow me?
Does that make sense?



✦ **The following arguments may help you interact in the debate. This shouldn't prevent you from doing some research yourself :P**

The topic of ARTIFICIAL INTELLIGENCE poses some difficult questions. We have taught machines to read, speak, understand humans by voices, actions or events. At the moment, people are really spending more hours per day with machines than humans, thus developing a human-machine relationship. People from all across the planet are spending more and more time surfing the net, especially in chat rooms, use net groups and bulletin boards. There have been some heroic individual efforts to realize chat bots, who would talk and behave like humans. Is this an indication of people's openness to talking and sharing emotions through and with machines?

Ask yourself or a partner the following questions!

1. Think about any science fiction films with intelligent robots you have seen. What were robots like? What could they do? Were they friendly towards humans?
2. What can robots do now?
 - play football; ➤ play chess; ➤ control cars; ➤ control planes; ➤ work in factories; ➤ defuse bombs; ➤ help with the housework; ➤ help with the homework; ➤ solve maths problems; ➤ give us the news; ➤ speak foreign languages; ➤ speak to us; ➤ have feelings; ➤ keep us company; ➤ work under the sea; ➤ take photos and collect rocks on planets like Mars without risking human life; ➤ work underground helping to find metals and minerals
3. Will society not restrict scientists from giving human attributes to machines?
4. Can machines be creative?
5. Will an artificial brain be able to learn faster than a human brain?
6. Will humans be able to build emotional machines?
7. Will robots ever get smarter than humans?
8. Will humans ever be controlled by intelligent machines?
9. Will our personal identity be stolen by robots?
10. Will robots really create a more pleasant way of life?
11. Will A.I. make the world a better place?

Now think of the following arguments before coming up with an informed opinion, will you?

Arguments in favour of robots

- ⇒ do the heavy, repetitive and undemanding work;
- ⇒ are particularly useful on production lines;
- ⇒ simplify the work;
- ⇒ don't eat, sleep or need air;
- ⇒ don't get bored;
- ⇒ don't get sick, pregnant or grow old;
- ⇒ don't go on strike;
- ⇒ increase productivity;
- ⇒ permit a considerable reduction of costs;
- ⇒ can bring new jobs; (Automation will inevitably displace jobs, but it's already bringing fresh economic opportunities as well. The last two decades have shown how technology can create industries even as it turns whole cities into has-beens. The ratio of jobs



created to jobs eliminated by robots and where all the newfound wealth ultimately winds up are entirely dependent on how workers, businesses, and policymakers prepare for this new era.)

⇒ due to their decreased size, weight, cost, energy requirement we can use ROBOTS to save human life, protect it against disasters, rescue people in emergency situations, find lost people and objects in bad weather conditions, explore space;
⇒ embodied conversational robotic pets/assistants are increasingly sharing our home and workspace;

⇒ allow us to have more free time;

⇒ facilitate greater independence for those with disabilities;

⇒ can be the therapists of the future because, unlike people, have unlimited patience and a totally unbiased approach to different people;

⇒ are good helpers in healthcare, rehabilitation or therapy;

⇒ have the advantage of precision and speed;

⇒ can perform tasks in surgery; (Sitting comfortably at their computer consoles, surgeons will be able to perform surgery by remote control. Their hands will guide the precise movements carried out by the **robot surgeon**. **The \$1.4 million robot named da Vinci can hold a camera in one hand while manipulating tiny laparoscopic surgical tools in its other hands. And it never tires like its human counterparts.** The use of a computer console to perform operations from a distance opens up the idea of tele-surgery, which would involve a doctor performing delicate surgery miles away from the patient. If the doctor doesn't have to stand over the patient to perform the surgery, and can remotely control the robotic arms at a computer station a few feet from the patient, the next step would be performing surgery from locations that are even farther away. If it were possible to use the computer console to move the robotic arms in real-time, then it would be possible for a doctor in California to operate on a patient in New York.)

⇒ can lower health care cost, reduce patient trauma and boost a faster recovery; (Having fewer personnel in the operating room and allowing doctors the ability to operate on a patient long-distance could lower the cost of health care. In addition to cost efficiency, robotic surgery has several other advantages over conventional surgery, including enhanced precision and reduced trauma to the patient. Because the surgeon would make these smaller incisions instead of one long one down the length of the chest, the patient would experience less pain and less bleeding, which means a faster recovery.)

⇒ do the difficult and dangerous job; (Apart from being labor-saving, they can work in **radioactive and toxic environments**, and can perform **hazardous tasks as bomb disposal**.)

⇒ can transform the idea of warfare; (**Warfare** will be dramatically transformed and will perhaps be less lethal: **drone aircraft** will direct the course of battle. With suicide bombing and improvised explosive devices escalating violence in Iraq, engineers are working to advance robotic technology to counter these deadly military problems.)



⇒ can perform several traditionally human tasks; (Sony's **bipedal robot QRIO** will be able to walk up a hill, do a dance, sing a song, chat with friends, take instructions by mobile phone and, when tired, wander home for a recharge.)

⇒ can help you do the shopping; (Using **radiofrequency sensors** to navigate, **IBM concept cart** will display a map to guide you through the aisles of a supermarket, pointing out sales and specials. You'll use the **touch screen** to **request goods** from a section to be **picked up** on your way to the cashier.)

⇒ can help with products and spin-off technologies; (NASA has contributed to putting men on the moon, probing the soil of Mars and exploring the solar system by means of **space probes**. It has also contributed countless products and "**spinoff**" technologies to the world, including **cordless power tools**, **lasers**, **smoke detectors**, better ways to detect breast cancer, improved **breathing apparatus** for firefighters and **heart pacemakers** just milimetres thin.)

⇒ can be used by nanotechnology;

(**Nanotechnology** is the future. **Nanorobots** (nanobots, nanoids or nanites) are nanometer-scale robots that use tiny arms to pick up and move atoms and tiny electronic brains to direct the process. Specialised nanobots dumped into an **oil spill**, a **toxic-waste site** or even a **polluted stream** will seek out and find dangerous molecules, remove them or change their molecular structure to render them harmless, or even beneficial. Nanobots can also be used in electronics and build **matchbox-size supercomputers**.)

Not only gene therapy, but also "**nanobiology**" will cure a number of nasty diseases. Streaming through the body, **nanobots** will unblock arteries, attack bacteria and viruses, repair broken blood vessels and many other jobs. They can also be used for **early diagnosis** and **targeted drug delivery** for cancer. They are also used to perform surgery. When robots aren't used for workers, they can be used to save lives. The process is exactly like swallowing a pill. Once the robot is digested, then the exciting part begins...the microbot find its way to the wound, injury, or illness and treats it. Robots may be used to fight fires someday too!)



Arguments against robots

⇒ cause unemployment; (some people argue: "If you're looking for new problems, it's not robots. It makes more sense to adapt to robots' taking our old jobs than to fight against it. Who knows? Once we figure out how to work with robots, we might even learn to love them.")



⇒ are technologically superior, but have limitations; (While robots can claim some technological superiority over humans, even the most sophisticated machines have limitations.)

⇒ make the workplace impersonal;

⇒ don't keep us company;

⇒ don't solve problems and make decisions;

⇒ are less flexible than humans;

⇒ don't abolish the need for human involvement since there will always be things that are uniquely human, like having a conscience;

⇒ aren't adaptable to circumstances and can't handle emergency situations;

⇒ can get smarter than humans;

⇒ can provoke time delay between surgeon and robotic arms; (A major obstacle in tele-surgery has been the time delay between the doctor moving his or her hands to the robotic arms responding to those movements.)

⇒ don't have autonomy, not being able to operate on people without human interaction;

⇒ can control and enslave us;

⇒ can acquire attributes similar to those of a person, namely human interfaces, a voice-response system... but aren't really a human being with all the complexity of feelings, emotions, flexibility, ...

⇒ can't recognise and express emotion; so, they will never have true **E.I.** (emotional intelligence).

⇒ Shouldn't be able to make battle decisions; (The question is then, who gives the orders to shoot? Is it a soldier, in a command post miles away? Or is the aim to programme these machines to make their own decisions? Then we are into a whole new ball game.)

⇒ can dominate our world; (We are really underestimating the power of robots because we are becoming a subservient part of a machine-ruled world.

The trailer for "I, Robot" shows a tidal wave of superior mechanical androids attacking humanity en masse. It's a sinister vision of the future, but that doesn't seem to concern the world's leading robot makers.)



Did you like doing this activity? YES ☐ NO ☐

Did you find it useful? YES ☐ NO ☐ Why (not)? _____